

SOCIETAS IRANOLOGICA EUROPÆA
ISTITUTO ITALIANO PER L'AFRICA E L'ORIENTE
ALMA MATER STUDIORUM – UNIVERSITÀ DI BOLOGNA, SEDE DI RAVENNA

Proceedings of the 5th Conference of the Societas Iranologica Europæa

held in Ravenna, 6-11 October 2003

Vol. I
Ancient & Middle Iranian Studies

Edited by Antonio PANAINO & Andrea PIRAS



MIMESIS

MILANO 2006

© 2006 by Università di Bologna &
Istituto Italiano per l’Africa e l’Oriente

All Rights Reserved

Supported by:
Societas Iranologica Europæa
Istituto Italiano per l’Africa e l’Oriente
Ministero dell’Istruzione, dell’Università e della Ricerca
Area della Ricerca e delle Relazioni Internazionali, Università di Bologna
Pro-rettore per i Poli della Romagna, Università di Bologna
Facoltà di Conservazione dei Beni Culturali, Università di Bologna
Dipartimento di Storie e Metodi per la Conservazione dei Beni Culturali, Università di Bologna
Polo Scientifico-didattico di Ravenna, Università di Bologna
Fondazione Flaminia, Ravenna
Provincia di Ravenna
Comune di Ravenna
Cassa di Risparmio di Ravenna

Set in Gentium.
Gentium font developed by Victor GAULTNEY (<www.sil.org/~gaultney/gentium>).
This book is entirely set in UNICODE (<www.unicode.org>) except for:
BIL Pahlavi font ©1996 by Claudius NAUMAN (in A. Cantera’s contribution);
Manichaean font by Prods Oktor SKJÆRVØ (in C. Leurini’s contribution).

Cover and title-page by Sara CIRCASSIA.
Electronic paste-up by Gian Pietro BASELLO (text) & Sara CIRCASSIA (plates).

Printed in Italy
by Edizioni Mimesis
Via M. Pichi 3 – 20143 Milano
<www.mimesisedizioni.it>
ISBN 88-8483-465-2

Table of Contents

Antonio C.D. PANAINO & Andrea PIRAS (University of Bologna, branch of Ravenna)	
<i>Preface</i>	VII
Antonio C.D. PANAINO (President of the Societas Iranologica Europaea, 2000-2003)	
<i>Opening Speech to the Fifth Conference of Iranian Studies</i>	IX
Gherardo GNOLI (President of the Istituto Italiano per l’Africa e l’Oriente)	
<i>Twenty Years On</i>	XIII
Romano PRODI (President of the European Commission)	
<i>Message to the Organisers and Participants at the 5th European Conference of Iranian Studies</i> ..	XV
Bahram QASSEMI (Ambassador of the Islamic Republic of Iran)	
<i>Address to the Organisers and Participants</i>	XVII

ANCIENT IRANIAN STUDIES

Hassan AKBARI (Tehran University)	
Morteza HESSARI (Hamburg University)	
<i>Die Felsgravierungen aus der iranisch-Aserbajdschan Provinz Ardabil</i>	3
Kersey H. ANTIA (Chicago, Illinois)	
<i>Were the Achaemenians Zoroastrian? How do we Resolve this Question?</i>	
<i>A Zoroastrian Viewpoint</i>	13
Gian Pietro BASELLO	
(University of Bologna, branch of Ravenna & ‘L’Orientale’ University, Naples)	
<i>Old Persian in Elamite: The Spellings of Month-names</i>	19
François DE BLOIS (School of Oriental and African Studies, London)	
<i>Lunisolar Calendars of Ancient Iran</i>	39
Alberto CANTERA (Universität Salamanca)	
<i>Was ist av. dāta- vīdāēuua-?</i>	53
Serena DEMARIA (Martin-Luther-Universität, Halle, Wittemberg)	
<i>Der koptische Kambyses Roman</i>	65
Bruno GENITO (‘L’Orientale’ University, Naples)	
<i>From the Scythians to the Achaemenids: A Nomadic Alternative</i>	75
Gherardo GNOLI (‘La Sapienza’ University, Rome)	
<i>The Seleucid Era and the Date of Zoroaster</i>	101
Mohammad T. IMANPOUR (Ferdowsi University of Mashhad)	
<i>The Function of Persepolis:</i>	
<i>Was Norooz celebrated at Persepolis during the Achaemenid period?</i>	115
Vladimir IVANOV (Moscow State University)	
<i>To the Origin of Avestan Pronunciation</i>	123
Marco LORETI (University of Bologna, branch of Ravenna)	
<i>Some Remarks on the Bas-reliefs dated to the Reigns of Artaxerxes II and Artaxerxes III</i>	131
Enrico MORANO (School of Oriental and African Studies, London)	
<i>“And then there were none”.</i>	
<i>Agatha Christie, Peano’s Axioms and the Druj Nasu’s Action in the Widēwdād</i>	145
Kamal Aldin NIKNAMI (University of Tehran)	
Mahnaz SHARIFI (University of Tehran)	
<i>Reconstruction of the Zagros Subsistence and Living Patterns during the Middle to Upper Palaeolithic: A Reappraisal</i>	151

Keigo NODA (Chubu University, Kasugai, Japan)	
<i>Old Persian Active and Passive</i>	159
Antonio C.D. PANAINO (University of Bologna, branch of Ravenna)	
<i>References to the Term Yašt and Other Mazdean Elements in the Syriac and Greek Martyrologia with a Short Excursus on the Semantic Value of the Greek Verb μαγεύω</i>	167
Chiara RIMINUCCI (Université de Bologne, siège de Ravenna)	
<i>Les daiva dans l'inscription de Xerxès (XPh) : entités étrangères ou anciennes divinités iraniennes?</i>	183
Rüdiger SCHMITT (Laboe)	
<i>Zu den altpersischen Monatsnamen und ihren elamischen Wiedergaben</i>	201
Martin SCHWARTZ (University of California, Berkeley)	
<i>On Haoma, and its Liturgy in the Gathas</i>	215
Philippe SWENNEN (Université de Liège)	
<i>Réflexions relatives à l'édition du Hordad Yašt de l'Avesta</i>	225
Xavier TREMBLAY (Tournai, Belgique)	
<i>Le pseudo-gâthique</i>	
<i>Notes de lecture avestiques II</i>	233
Michiel DE VAAN (Leiden)	
<i>The Instrumental Plural of u-stems in Young Avestan</i>	283
Massimo VIDALE (University of Bologna, branch of Ravenna)	
<i>Technology and Decoration of Jaz I Painted Buff Ware Pots as observed at Site M-999 (Murghab Delta, Turkmenistan)</i>	293

MIDDLE IRANIAN STUDIES

Irina A. ARZHANTSEVA (Russian Academy of Science, Moscow)	
Ol'ga N. INEVATKINA (State Museum of Oriental Art, Moscow)	
<i>Iranian People depicted in Afrasiab Wall Painting (7th century AD)</i>	307
Guitty AZARPAY (University of California, Berkeley)	
<i>Sealed Pahlavi Manuscripts at Berkeley: Physical Characteristics</i>	319
Marco BAIS ('Ca' Foscari' University, Venice & Pontifical Oriental Institute, Rome)	
<i>The Political Control over the Eastern Subcaucasian Coast: The Mazk'ut'k'</i>	323
David BUYANER (Jerusalem)	
<i>Some Etymological and Lexicological Observations on the Pahlavi Text Stāyišn Sīh Rōzāg</i>	333
Pierfrancesco CALLIERI (University of Bologna, branch of Ravenna)	
<i>Water in the Art and Architecture of the Sasanians</i>	339
Martha L. CARTER (American Numismatic Society)	
<i>Kaniška's Bactrian Pantheon in the Rabatak Inscription: The Numismatic Evidence</i>	351
Iris COLDITZ (Institut für Iranistik, Berlin)	
<i>On the Zoroastrian Terminology in Mani's Šābuhragān</i>	
<i>Additional Notes</i>	359
Matteo COMPARETI ('Ca' Foscari' University, Venice)	
<i>The Representation of Foreign Merchants in the Prañidhi Scenes at Bāzāklik</i>	365
Salvatore COSENTINO (University of Bologna, branch of Ravenna)	
<i>Some Examples of Social Assimilation between Sasanians and Romans (4th-6th Century AD)</i>	379
Touraj DARYAEE (California State University, Fullerton)	
<i>Sasanians and their Ancestors</i>	387
Massimiliano DAVID (Università di Bologna, sede di Ravenna)	
<i>La fine dei mitrei ostiensi</i>	
<i>Indizi ed evidenze</i>	395
Abolqasem ESMailPOUR (Shahid Beheshti University, Tehran)	
<i>New Light on an Iranian Approach to Manichaeism based on Persian Classical Texts from 10th to 11th A.D.</i>	399

Andrea GARIBOLDI (University of Bologna, branch of Ravenna)	
<i>The Role of Gold and Silver in the Sasanian Economy</i>	415
Badri GHARIB (Tehran)	
<i>Present and Past Perfect Transitive in Sogdian</i> <i>and its Comparative Similarities with some New Iranian Dialects</i>	437
Philippe GIGNOUX (EPHE, Paris)	
Rika GYSELEN (C.N.R.S., Paris)	
<i>La relation des sceaux à leur possesseur</i> <i>d'après les documents économiques de la collection de Berkeley</i>	445
Thamar E. GINDIN (Hebrew University of Jerusalem)	
<i>How to Say "No" in Early Judaeo Persian</i>	451
Tommaso GNOLI (Università di Bologna, sede di Ravenna)	
<i>C. Iulius Mygdonius: un Parto a Ravenna</i>	461
Seiro HARUTA (Tokai University, Hiratsuka, Japan)	
<i>Elymaean and Parthian Inscriptions from Khūzestān: A Survey</i>	471
Bodil HJERRILD (Valby, Denmark)	
<i>Succession and Kinship in the Late Sasanian Era</i>	479
Irene HUBER (Leopold-Franzens-Universität, Innsbruck)	
Udo HARTMANN (Humboldt-Universität, Berlin)	
<i>„Denn ihrem Diktat vermochte der König nicht zu widersprechen ...“</i> <i>Die Position der Frauen am Hof der Arsakiden</i>	485
Pallan ICHAPORIA (Womelsdorf, Pennsylvania, USA)	
<i>The Gāthās in the Pahlavi Tradition of Late Sasanian and Early Islamic Periods, exemplified</i> <i>by Yasna 30.3 and the Pahlavi Text of the Ahunavaitī Gāthā as given in the Dēnkard Book IX</i>	519
Christelle JULLIEN (C.N.R.S. Monde Iranien, Paris)	
<i>Kaškar "la sublime" et sa singulière prééminence sur le siège patriarcal de Séleucie-Ctésiphon</i> .	543
Florence JULLIEN (A.T.E.R. Collège de France, Paris)	
<i>Un exemple de relecture des origines dans l'Église syro-orientale : Théocrite et l'évêché de</i> <i>Šāhrgard</i>	553
Claudia LEURINI (University of Bologna, branch of Ravenna)	
<i>A New Manichaean Fragment Dedicated to Ammō, Apostle of Mani?</i>	561
Kinga MACIUSZAK (Jagiellonian University, Kraków)	
<i>The Horned Goat versus Demoniac Tree</i> <i>Some Remarks on Symbolic Meaning of the Pahlavi Text Draxt ī Āsūrīg</i>	567
Maria MACUCH (Institut für Iranistik, Freie Universität, Berlin)	
<i>The Function of Temporary Marriage in the Context of Sasanian Family Law</i>	585
Milena MANINI (Università di Bologna, sede di Ravenna)	
<i>Pietro Patrizio ed il solenne cerimoniale d'accoglienza riservato all'ambasciatore illustre dei</i> <i>Persiani (De Caer. I, 89-90)</i>	599
Jafar MEHR KIAN (Iranian Cultural Heritage & Tourism Organization)	
<i>The Tisiyun Elymaean Relief of Mehrnān, Plain of Susan, Izeh/Mālamir (Khuzestan)</i>	611
Federicomaria MUCCIOLI (Università di Bologna)	
<i>Antioco IV «salvatore dell'Asia» (OGIS 253) e la campagna orientale del 165-164 a.C.</i>	619
Paolo OGNIBENE (Università di Bologna, sede di Ravenna)	
<i>Alani, As e l'arcontato di Azia</i>	635
Laura PASQUINI (Università di Bologna, sede di Ravenna)	
<i>Influenze dell'arte sasanide nell'Occidente mediterraneo: alcuni episodi decorativi</i>	645
Andrea PIRAS (University of Bologna, branch of Ravenna)	
<i>The Aramaic Heritage in one Expression of the Sasanian Inscription of Paikuli</i>	661
Enrico G. RAFFAELLI (Università 'La Sapienza', Roma)	
<i>Il testo avestico Sīh-rōzag e la sua versione mediopersiana</i>	669
Nikolaus SCHINDEL (Wien)	
<i>The Sasanian Eastern Wars in the 5th Century: The Numismatic Evidence</i>	675

Dan D.Y. SHAPIRA (Open University, Ra'anannah & Bar-Ilan University, Ramat-Gan, Israel)	
<i>Mandaean and quasi-Mandaean Prototypes of some Expressions</i>	
<i>in the Greek Cologne Mani Codex: Stray Aramaicist's Notes.....</i>	691
Nicholas SIMS-WILLIAMS (School of Oriental and African Studies, London)	
<i>Bactrian Letters from the Sasanian and Hephthalite Periods.....</i>	701
Werner SUNDERMANN (Akademie der Wissenschaften, Berlin)	
<i>A Fragment of the Buddhist Kāñcanasāra Legend in Sogdian and its Manuscript</i>	715
Mihaela TIMUȘ (Centre d'histoire des religions, Université de Bucarest)	
<i>Sur le vocabulaire du 'destin' chez les zoroastriens</i>	
<i>Autour du pehlevi baxt</i>	725
Gabriella ULUHOĞIAN (Università di Bologna)	
<i>Occhi armeni sulla corte di Persia.....</i>	747
Zohre ZARSHENAS (Tehran)	
<i>Sogdian ywt'w.....</i>	757

Gian Pietro BASELLO University of Bologna, branch of Ravenna & 'L'Orientale' University, Naples

Old Persian in Elamite: The Spellings of Month-names

During the 1904-1905 campaign, the French archaeologists at Susa discovered a three-dimensional bronze model, encased in a brick-like gypsum block.¹ Such a unique object could have puzzled the naming needs of the scholars if, according to the common interpretation² of the short inscription in the near-right corner of the base, nobody less than Šilhak-Inšušinak I (1140-1120 BC), king of Anšan and Susa, referred to it as a *sit šamši* (*si-it ša-am-ši*).³ This name, appearing actually in lines 5-6 of the inscription and followed by the adjective 'bronze' (*sa-hi-ya*) and by a form of the verb 'to do, make' (*hu-[uh-t]ah*), means 'the rising of the sun, sunrise' in Akkadian. Since Akkadian was widely attested in Susiana in the 2nd millennium BC,⁵ this is not as surprising as the remainder of the inscription, which is in Elamite,⁶ resulting in a shift from a genitive syntagma to a crystallized loan-word for the supposed name of the cult act set for eternity in the bronze model.⁷ Although the shape of the signs follows the usual middle Elamite development, the same cuneiform signs could have written *sit šamši* in Akkadian.⁸

Remarks on transliteration and transcription

Cuneiform transliteration is underlined; transcription is italicized. Since cuneiform writing is variable in orthography, transcription of a less-understood language such as Elamite is primarily intended as a comprehensive way of referring to all the attested spellings of the transcribed word. Therefore, even if not always satisfactory from a phonemic point of view, Elamite words are transcribed according to the glossary in Hallock 1969: 663-776, which provides spellings and occurrences for each lexical entry in transcription.

¹ See the detailed description in Tallon 1992, including a discussion on the dubious archaeological context. The model is often mentioned in comprehensive handbooks on the ancient Near East and its artistic production (see for instance Roaf 1990: 74). The model is exhibited in room 10 of the 'Antiquités Orientales' collection of the Louvre museum. See also Amiet 1966: 390-393 (with further references) and Potts 1999: 239-240 (the related plate 7.8 is printed as in a mirror).

² Since Scheil 1905, column 251. See for instance Amiet 1966: 392 ('Maquette antique d'un sanctuaire, avec cérémonie célébrée au lever du soleil') and Malbran-Labat 1995: 214.

³ The 7-line inscription is published in Scheil 1905, Gautier 1909: 42, Scheil 1911 and König 1965: 136, no. 56. Drawing in König 1925, no. 56 (after the heliogravure in Scheil 1911, plate 11).

⁴ 'h[u-h-t]áh' ('h' transliterates uh) in Hinz & Koch 1987: 1059, 'sa-hi-ya'. Regarding tah and táh, Steve stated: 'Il y a eu en élamite confusion graphique fréquente entre GAB [i.e. táh] et DAḪ [i.e. tah]' (Steve 1992: 149, '167. GAB'). The sign uh was afterwards preferred to the sign ut drawn in König 1925, no. 56 (König 1965: 135, footnote 1).

⁵ On Akkadian texts in Elam, see Lackenbacher 1998.

⁶ In Tallon 1992: 137 it is stated only that 'the model bears an inscription'.

⁷ Leaving out that I almost agree with M. Rutten who, in a forgotten note written in 1953 (Rutten 1953: 21), compared the syntagma *sit šamši* to middle Elamite votive formulae (see the textual comparisons advanced in the lecture 'Finding a Name for an Archaeological Finding: the *Sit-šamši* from Šuš', available online at the Internet address <www.elamit.net>, last modified 2004, October 7).

⁸ Even if a skilled Akkadian scribe would have preferred the usual logographic spelling ^dUTU.È (CAD Š, 'šitu', 1).

A sign-by-sign correspondence of an Akkadian word in Elamite is possible because the Elamite script is a selected subset originated from the Akkadian syllabary.⁹ At most, one could wonder what would have happened if a required Akkadian sign was not otherwise attested in the Elamite syllabary. Perhaps, if the foreign word was so peculiar of the foreign culture and its need was not occasional, a new sign could be added, perhaps unconsciously, to the target syllabary.¹⁰ This is just what happened, partly in the administrative tablets from Tall-e Malyān (11th century BC),¹¹ then systematically in the *omina* tablet¹² and in the neo-Elamite administrative tablets from the Acropolis of Susa (7th or even 6th century BC),¹³ for some logograms of Babylonian month-names. However, there is at least one exception: in the Acropolis tablets, the common sign KAM was preferred to the correct, but unusual for the Elamite syllabary, sign GAN for writing the name of the 9th Babylonian month.¹⁴

Old Persian Month-names in Elamite

Some decades later, when a strong and powerful ruling class was setting up a new state organization, the loan language was no longer Akkadian. While speaking what we call today Old Persian, they relied upon scribes writing in Elamite for bookkeeping purposes. So we are not surprised to find in the Persepolis Fortification (510-494 BC)¹⁵ and Treasury (492-

⁹ For a detailed reassessment of the origin and development of Elamite script, see Steve 1992. See also Cameron 1948: 70-73, 'The Elamite Signs of the Achaemenid Period'.

¹⁰ The conception of syllabary as a whole is obviously inferred by modern scholars. A monolingual Elamite scribe would have known the limited number of signs used to write Elamite, but it is not unlikely that scribes were bilingual at Susa (Steve 1992: 5-6 with further references), so it is not clear where the Elamite syllabary ended and the Akkadian one began. On bilingualism in Elam, see Malbran-Labat 1996.

¹¹ Published in Stolper 1984. Dating: see Stolper 1984: 9; compare Steve 1986: 19 and 1992: 21, 'N I A. Malyān'.

¹² Published in Scheil 1917.

¹³ Published in Scheil 1907 and Jusifov 1963. Dating: last quarter of the 7th century BC (Scheil 1907); 'It is barely possible that these [Acropolis] tablets were written in the last years of the Neo-Elamite kingdom, say between 650 and 630, or during the Neo-Babylonian occupation of Susa (roughly 600-560) when Persian influence was entering into the area ... but when a "Treasury" could have functioned at the site. It is just as possible, and perhaps more probable, however, that they were inscribed at a time when Medes or Cyrus the Great and Cambyses were in control there—that is, in the early years of the Achaemenids' (Cameron 1948: 24, footnote 2); ca. 650-550 BC (Miroshedji 1982: 60); 'no earlier than the late seventh century B.C.' (Stolper 1984: 8); 680 BC (Hinz 1987: 125); neo-Elamite III B, group 1 (Steve 1992: 19-24); neo-Elamite IIIB, ca. 585-ca. 539 BC (Vallat 1996: 389, '1°').

¹⁴ Basello 2002: 22a; see also Steve 1992: 149, '143/105. KAN' and p. 158, '406. KAM'. The occurrences of the isolated Elamite (?) month-name *Rahal* (see Basello 2002: 20-21) may be explained in a similar way, i.e. instead of the 7th Babylonian month-name whose logographic writing (DU₆) required a sign unknown to the Elamite syllabary (with the only exception of the *omina* text). Vice versa, in Achaemenid Elamite the sign value rad/t is attested only in Iranian anthroponyms (Steve 1992: 13 and 146, '83. RAD').

¹⁵ Published in Hallock 1969 and 1978. See Hallock 1973 and 1985 for an overview of these tablets.

459 BC)¹⁶ administrative tablets a lot of Old Persian loan-words, especially anthroponyms, but also offices, professions, administrative technical terms, objects and month-names.¹⁷

However, Elamite and Old Persian scripts are quite different, as well as the phonetics of the two languages: Old Persian words had to change their dressing, and none of the new clothings was made to measure. Skimming through the glossary by R.T. Hallock in his volume *Persepolis Fortification Tablets*, some particularly wealthy entries stand out: they make up the wardrobe of Old Persian month-names,¹⁸ which had to linger in Elamite garb. In fact they have not a standard Elamite spelling, but each can be written down in a lot of alternating syllabic sequences. For example, the inventory of spellings and occurrences of the month *Miyakannaš* stretches nearly over an entire column.¹⁹

According to the Lankelli database,²⁰ in the Persepolis tablets there are 18 different extant spellings for a total of 202 occurrences of the month-name *Miyakannaš*: the most attested spelling, mi-ya-kán-na-aš, occurs 55 times, followed by the 54 occurrences of mi-kán-na-iš. Then there are 4 spellings, each occurring between 15% and 5% of the total occurrences. Under the threshold of 5% there are 12 spellings, 8 of which are attested only once.

Miyakannaš is the most attested month-name and it is, perhaps not by chance being accounting tablets, the last month of the year.²¹ The less attested month is *Karmabataš* with 109 occurrences. *Turmar*, *Sakurriziš* and *Samiyamaš* have even 28 different spellings each, while *Karmabataš* only 8.

The Index of Spelling Variability

In order to have an immediately significant number representing the ratio between attested spellings and occurrences, the Index of Spelling Variability (ISV) is obtained for a given word dividing the number of spellings by the number of occurrences. An ISV equal to 1 means that each occurrence of the word is written with a different spelling. The more the ISV approaches to zero, the less the attested spellings and the more the occurrences, e.g. the ISV of a month-name attested a lot of times with few spellings is lower than that of an anthroponym attested just a couple of times with one and the same spelling.

¹⁶ Published in Cameron 1948, 1958 and 1965. For a reassessment of the evidence of both the Persepolis Fortification and Treasury tablets, see Garrison & Root 2001: 23-34.

¹⁷ See especially Cameron 1948: 40-45, 'Old Persian Loan Words in Elamite Texts'; Hallock 1969: 9-10, 'The Loan Words from Old Persian'; Hinz 1975.

¹⁸ The designation 'Old Persian' must be intended as a conventional label (see Schmitt 2003: 57).

¹⁹ Hallock 1969: 733, 'Miyakannaš'.

²⁰ The second release of Lankelli, a database for month-names in Elam (available at the Internet address <www.elamit.net>), was queried throughout this research. The database surveys all the published texts, including references to unpublished data inferred especially from the glossary in Hallock 1969: 663-776 and from Hinz & Koch 1987. Damaged occurrences, providing no reliable data, were excluded from statistical counts, even if Hallock inserted the most attested spelling everywhere it was possible to restore with certainty the name of a month (on the ground of the context and/or of calculation based on the listed amounts of rations).

²¹ The absolute order, by now well established, is confirmed, for instance, in PF 743, with a 12-month period from *Hadukannaš* to *Miyakannaš*, and especially in PF 1790 (cited also in Hallock 1969: 2-3) or PF 1779, with a sequence of months belonging to two consecutive years, both years explicitly written (Basello 2002: 24 and footnote 104).

The average ISV of the Old Persian month-names in Elamite script is 0.13, with a minimum of 0.07 for *Karmabataš*, whose spellings are the most persevering, and a maximum of 0.22 for *Samiyamaš*, the most variable in spelling.

According to G.G. Cameron, the spelling variability of Old Persian borrowed month-names in Elamite was not surprising:

As might be expected, Elamite transliterations vary considerably. Some of the names can have been heard only imperfectly. [...] Finally, his [i.e. of an Elamite scribe] available orthography—derived ultimately from Sumer and Akkad—was inadequate to express all the sounds current in the Old Persian tongue.²²

* * *

While 33% of Persepolis tablets with a date formulae use Old Persian month-names, a minority equal to 6% (the remainder is dated only by year) provides another set of month-names. Since R.T. Hallock defined them as ‘presumably Elamite in origin’,²³ we might expect that their spellings were more persevering. Nevertheless the ISV of the “native Elamite”²⁴ group is equal to 0.23, 10% higher than that of the Old Persian month-names. So, either an high ISV does not mean that a word is borrowed, or we might surmise that the “Elamite” month-names are not so much Elamite.²⁵ Nonetheless, some of these month-names really seem related to those attested some five centuries before in the administrative tablets from Tall-e Malyān, the ancient city of Anšan.²⁶

²² Cameron 1948: 41b. Obviously, the opposite may be true, i.e. the reception of a foreign word as a crystallized form and higher freedom in writing native terms: for instance, foreign words were generally not declined and taken as fixed forms (then really perceived as foreign) in ancient Greek. However, a distinction must be done between scripts with variable (without affecting pronunciation, as in cuneiform and other syllabic scripts) and fixed (as generally in alphabetic scripts) orthography. For ancient languages, even if not as standardized as the orthography of contemporary languages like German, the role of scribal schools shall not be underestimate: the act of writing was not a mass phenomenon.

²³ Hallock 1969: 74. See also Cameron 1948: 41a and footnote 11.

²⁴ Designation quoted from Hallock 1969: 10.

²⁵ Obviously we should first come to an agreement about what we mean by being Elamite, if R.T. Hallock with ‘months of Susa’ meant the Babylonian month-names in the Acropolis tablets from Susa (Hallock 1978: 111; see Basello 2002: 25, footnote 122).

²⁶ See Basello 2002. Only *Belili* and *Manšarki* (both belonging to the Anšan group) have more than one spelling (3 and 2 respectively); month-names such as *Api* and *Lalube* (possibly belonging to the group of Susa) are attested a lot of times (19 and 26 respectively, restored occurrences excluded) with one and the same spelling (transcriptions according to Stolper 1984: 196).

order	Old Persian month-name	spellings	occurrences in DB/AE*	occurrences in Persepolis tablets	OP ISV	Elamite month-name	spellings	occurrences in Persepolis tablets	El ISV	OP - El ISV
1	<i>Hadukannaš</i>	15	1	162	0.092	<i>Zikli</i>	3	34	0.088	0.004
2	<i>Turmar</i>	28	4	158	0.173	<i>Zarpakim</i>	5	28	0.179	-0.006
3	<i>Sākurrižiš</i>	28	1	139	0.200	<i>Hadar</i>	1	5	0.200	0.000
4	<i>Karmabataš</i>	8	3	109	0.071	<i>Hallime</i>	3	14	0.214	-0.143
5	<i>Turnabaziš</i>	13	0	125	0.104	<i>Zillatam</i>	5	13	0.385	-0.281
6	<i>Karbašiyaš</i>	26	0	127	0.205	<i>Belilit</i>	1	14	0.071	0.133
7	<i>Bakeyatiš</i>	10	1	128	0.078	<i>Manšarki</i>	11	19	0.579	-0.501
8	<i>Markašanaš</i>	9	1	122	0.073	<i>Lankelli</i>	8	24	0.333	-0.260
9	<i>Hašiyatiš</i>	12	2	136	0.087	<i>Šibari</i>	5	39	0.128	-0.041
10	<i>Hanamakaš</i>	18	4	144	0.122	<i>Šermi</i>	5	38	0.132	-0.010
11	<i>Samiyamaš</i>	28	0	127	0.220	<i>Kutmama</i>	3	22	0.136	0.084
12	<i>Miyakannaš</i>	19	3	202	0.093	<i>Aššetukpi</i>	9	34	0.265	-0.172
	total	214	20	1679		total	59	284		
	average	17.83			0.126	average	4.92		0.226	-0.100

Table 1. Number of spellings and occurrences of Old Persian (OP) and Elamite (El) month-names.

* The same number of occurrences is attested for the corresponding month-names in DB/OP, except for the 8th month whose only occurrence is lost in a damaged passage (DB/OP III 88).

The Spelling Flow Chart

In order to perform an in-depth analysis of the spellings of each month-name, it was necessary to consolidate the many different spellings into single different signs or sequences of signs, even if not all the possible combinations of alternating signs or sequences of signs are attested in concomitance in an actual spelling. Therefore the signs attested in the spellings of a month-name were arranged consecutively in a spelling flow chart (figs. 1-12) where the alternating signs or sequences of signs are roughly aligned in the same vertical segment of the chart. Each pair of signs attested in sequence is linked with a line and the number of occurrences of the two-sign sequence is written above or below the line; lines terminating in a short perpendicular stroke departs from signs ending a spelling.

From a theoretical point of view, a sign or a sequence of signs in any word position can be in one of the following relationships with an alternative sign or sequence:

- equivalent, being irrelevant to pronunciation as a result of the variable orthography of the script (due to syllabic combinatory alternatives). The following are the possible causes of variable orthography advanced by scholars for Elamite script: irrelevance of vowels in CVC signs²⁷ and in VC signs part of “broken-vowel” writing (CV₁-V₂C),²⁸ unpronounced written final vowels,²⁹ no distinction between voiced and unvoiced stops,³⁰ unpronounced

²⁷ Paper 1955: 15, § 2.11 (see also p. 13); Zadok 1983: 110, § 223; Zadok 1984: 3-4: ‘CVC signs are indifferent to vowel quality in N[eo-]E[lamite] and R[oyal]A[chaemenid]E[lamite], as they are in N[eo-]L[ate]B[abylonian] (...), and for the same reason (influence of the alphabet)’ (‘C’ = consonant; ‘V’ = vowel).

²⁸ Paper 1955: 9-11, § 2.8; Reiner 1969: 70-71; Mayrhofer 1973: 112-113, ‘6.3. „Broken writing“’.

²⁹ Paper 1955: 11-12, § 2.9.

³⁰ Paper 1955: 21; de Blois 1992, column 197. Compare Steve 1992: 8.

written geminated consonants,³¹ unpronounced or unwritten *h*,³² and, to a much lesser extent, homophonous signs;

– approximate, being irrelevant to pronunciation as a result of historical,³³ defective³⁴ or inaccurate orthography. For dead languages, this case is often difficult to distinguish from the preceding. For example, as a consequence of general inaccuracy in noting vowel quality, one of the two alternants can be considered abbreviated, defective or less accurate, such as *mi-kannaš* instead of *mi-ya-kannaš* or *Karba-ši-iš* instead of *Karba-ši-ya-iš*. The other alternant could be defined as redundant or more accurate. For Elamite, approximate orthography is a consequence of the adaptation of Akkadian syllabary to Elamite phonetics³⁵;

– alternative, recording different pronunciations (dialectal variations). In case of spellings of loan-words, it could be due also to the presence of different morphemes (declined cases) in the source language; if the writing system is the same, the exact spelling of the source language might be replicated in the target language, even if the pronunciation may not be the same of the source language and thus a complementary relationship (see below) should be postulated. In extreme cases, the once or the less attested spelling could be considered, according to our present knowledge of the language(s), inadequate in representing the actual pronunciation, i.e. a mnemonic writing (not in monumental inscriptions), an engraver's error (not in administrative tablets, i.e. occurring when an illiterate copied the text) or an oversight of the scribe.

In case of spellings of loan-words, a further type of relationship can be postulated:

– complementary, being different adaptations of the sounds of the source language in the target language. Complementary spellings provide data for evaluating the phonetic systems of both the source and target languages, e.g. they render nuances of Old Persian sounds unknown to Elamite phonetics. We do not know if complementary spellings were pronounced differently (by monolingual Elamite speakers) or were masks of the same (Old Persian?) pronunciation (for Persian and bilingual speakers). This is the case of Elamite spellings such as *tū* and *šū* alternating for Old Persian *θ-u*.³⁶

Therefore complementary and approximate spellings can express the same relationship between writing and pronunciation, but the first is due to the adaptation of borrowed words in a native phonetic system, while the latter is a consequence of the adaptation of native words in a borrowed writing system.

Old Persian Month-names in Old Persian

Date formulae were required not only for accounting purposes but also in order to support a strong royal ideology.³⁷ In the Bisotun inscription (520-518 BC) it is stated several times

³¹ Paper 1955: 7-8, § 2.7; Hallock 1969: 71; Reiner 1969: 75, § 3.6; Grillot-Susini 1987: 9. Compare Reiner 1969: 112-116; Mayrhofer 1973: 107-108, '6.1. Der Reiner-Test'; Khačikjan 1998: 6, 2.1.

³² Paper 1955: 24-25, § 3.7; Reiner 1969: 72, § 3.1.2.

³³ E.g. the spellings 'colour' and 'color' in English (OED, 'colour, color').

³⁴ E.g. in scripts where vowels are not usually written, even if there are signs to write them.

³⁵ Steve 1992: 13-14, especially §§ 7.2 and 7.3.

³⁶ Compare however pre-Achaemenid Elamite *te-em-ti* and *še-em-ti* (Zadok 1984: 3).

³⁷ On the role of numbers in the Bisotun inscription, see Windfuhr 1988.

in all the languages that we came across so far, Babylonian, Elamite and Old Persian, that king Darius did all that he wanted to be reported there in ‘one and the same year’.³⁸ Though the Bisotun inscription is neither a chronicle nor a plain report, 20 dates are included in the text, attesting 9 different month-names. In fact, before the discovery of the Persepolis tablets in the 1930s, eight Old Persian month-names were already known both in Old Persian language and Elamite script from Bisotun.³⁹ A ninth, mar-ka₄-za-na-iš according to the Elamite text, unfortunately occurred in a damaged passage and is unreadable in Old Persian. The editor(s) of the Babylonian text preferred the corresponding Babylonian month-names written in the standard short logographic form: therefore, Old Persian loanwords were not needed in Babylonian and the two calendars were both lunar and in synchrony (at least at that time⁴⁰).

The first occurrence of a month-name in the Bisotun inscription is mi-kán-na-iš in Elamite, corresponding to Old Persian vi-i-y-kh-n-h-y (a declined form).⁴¹ This month-name is attested two more times in the Bisotun inscription but, while the spelling remains unchanged in the Old Persian text,⁴² we find a slightly different spelling in Elamite, mi-ya-kán-na-iš,⁴³ which will be the most attested spelling in the Persepolis administrative tablet since nearly ten years after the carving of the Bisotun inscription. *Miyakannaš* is the only month-name with variable spelling in the Bisotun inscription and, if mi-kán-na-iš was not attested in the tablets only once less than mi-ya-kán-na-iš, we would surely think of a scribal omission for -ya-. The Bisotun spelling is the most attested in the Persepolis tablets also for *Hadukannaš*, *Bakeyatiš* and *Sākurrižiš*.

The Bisotun spelling is the second most attested in the Persepolis tablets for three other month-names: *Turmar* has a little gap (18 occurrences versus 22) towards the most attested spelling, while *Hanamakaš* (15 occurrences versus 88) and *Karmabataš* (12 occurrences versus 84) have a wider one. The differences are respectively as follows: tu-ir-ma-ir versus tu-ru-ma-ráš; *Hana-ma-ak-kaš* instead of *Hana-ma-kaš*; CVC sign bat instead of CV ba.

The Bisotun spelling of *Markašanaš* is attested only once in the Persepolis tablets,⁴⁴ the difference being the sign za instead of šá.

The month-name *Hašiyatiš* in the Bisotun inscription has a particularly “long” spelling not attested in the Persepolis tablets: in respect to the most attested spelling in the tablets, it has ha-iš-ši- instead of ha-ši- and -ti-ya-iš instead of -ti-iš; other spellings have these two sequences but they do not occur at the same time.

³⁸ Kent 1953: 160 (h-m-h-y-a-y-a θ -r-d in DB/OP IV 4-5, 41, 45, 52 and 60). For a chronological survey of the problem, see Hallock 1960 (citing further references, in particular Poebel 1938b and also 1938a) and Tuplin 2005: 234-235.

³⁹ The Old Persian month-names were studied linguistically by Justi (1897) and Oppert (1898 and 1899) until Poebel (1938a) was able to fill in the gaps and fix the relative order thanks to the Persepolis tablets discovered in the meantime. Then Cameron (1948: 41 and pp. 44-45, ‘Table 4’), Kent (1953: 160-163, ‘IV. The Persian Calendar and Behistan I-IV’, and month-names in the ‘Lexicon’), Brandenstein & Mayrhofer (1964, month-names in the ‘Lexicon’), Hinz (1973: 64-70) engaged in the challenge to reconstruct the missing Old Persian names and guess their etymology (see Panaino 1990: 658-660 for further references), as de Blois (2006) and Schmitt (1985a, 1985b, 1987, 1989, 1996 and especially 2003 and 2006) are doing more recently.

⁴⁰ Basello 2002: 15.

⁴¹ DB/AE I 28-29; DB/OP I 37.

⁴² DB/OP II 98 and III 68.

⁴³ DB/AE II 72 and III 29.

⁴⁴ Fort. 3126:9-10.

Where a CVC sign alternates with “broken-vowel” writings in the tablets, the Bisutun spellings prefer the former instead of the latter: kan versus ka₄-nu or ka₄-na in *Hadukannaš* and *Miyakannaš*, kar and bat in *Karmabataš*, kaš in *Hanamakaš*.⁴⁵

So, for 4 month-names out of 9, the Bisotun spelling is the preferred one in the extant Persepolis tablets too. Considering the wide choice of alternative spellings, this should not be a mere chance: should these spellings be considered as the most correct? How could this correctness be evaluated? ‘Correct’ because they are more accurate in rendering the Old Persian pronunciation? Or should a scribe have preferred the fastest spelling to write, at least in an accounting tablet?

Evaluating the Elamite Spellings of Old Persian Month-names

Although I have no definitive answers, some remarks could be drawn about the exceedingly number of different Elamite spellings for Old Persian month-names.

- First of all, month-names, being limited in number and often required in administrative texts, are far more attested than single foreign anthroponyms or other loan-words, resulting in a greater number of chances to be variable in spelling.
- Thanks to the tablets dated also by year, we can exclude a diachronic evolution in the preferred (i.e. most attested) spelling, since the more a spelling is attested, the more it is distributed over the years proportionally to the total number of tablets dated to that year.
- Regional variants cannot be found either in pronunciation or scribal habits. Supposing that the tablets were not written in the same place, no relationship could be drawn correlating toponyms and month-name spellings occurring in the same tablet.
- Likewise I could not single out dialectal developments looking for concomitant spelling developments in other words of the same tablet,⁴⁶ except in the following isolated case: the spelling sa-kur-ra-a-iz-za is attested exclusively in the three tablets PF 1325-27, in concomitance with the spelling ku-iz-za, which, according to Hallock, represents *kutiša* (ku-ti-(iš-)-šá)⁴⁷; here *z* could be a device for writing the consonantal group /tš/ or a dialectal variation instead of /tiš/ or /taš/. This does not mean that dialectal variants did not exist: according to Schmitt, spellings such as *Bake-ha-zí* and *Haši-ha-zí* represents alternative writings.⁴⁸ However, dialectal variation can explain only few unpersevering spellings.
- Some spellings can be regarded as abbreviated writings, such as tu-ma-ráš (2 occurrences) and šu-ru-mar (2), sa-ak-ri-za (3), kar-ba-ši (2), ha-na-ma-ak (1), mi-kin-na (4) and mi-kán (1), but they remain isolated occurrences, except perhaps for mi-kán-na (25) and

⁴⁵ Notice that in *Markašanaš*, kaš instead of ka₄-šá or ka₄-za (as in the Bisotun spelling) is never attested.

⁴⁶ Assuming that a tablet represents a textual unit with respect to the category of authorship, place and time.

⁴⁷ Hallock 1969: 72; also p. 719, ‘*kutiš*’ and ‘*kutiša*’. Compare also the spellings for *kurzap*, equivalent in meaning to *kurtašpe* (Hallock 1969: 717-718, ‘*kurtaš*’).

⁴⁸ Schmitt 2003: 29ff (see the list in Schmitt 2003: 57). In a more general framework, see Lecoq 1974: 60: ‘Les noms de mois donnés par Darius dans la même inscription [i.e. DB/OP] trahissent également une bigarure dialectale apparemment tout aussi arbitraire avec le mède *Varkazana* à côté de formes authentiquement perses comme *Açiyādiya*’.

mi-ka₄-na (16). However, for some of these is debatable the status of abbreviated versus not redundant approximate writing.

Actually, we should have come to an agreement about the causes of variable orthography from the beginning. But this would have proved to be impossible, since our understanding of the Elamite language and phonetics is far to be so definite. Rather, on the ground of the evidence of the spellings of month-names, the following remarks on the variable orthography can be proposed.

- Let us take into consideration the three alternating syllabic sequences CV-C₁V(C), CV-VC₁-C₁V(C) and CVC₁-C₁V(C). The first spelling seems to mark with accuracy the quality of the first vowel, especially if it is /i/ or /u/; the pronunciation does not seem to be granted in case of Ca. The second spelling is perhaps more accurate in noting that the first vowel was pronounced, while the third one that it was not pronounced (and in case of CVr signs we are facing probably an Old Persian /r/).
- hV-C₁V(C) and VC₁-C₁V(C) seems to be equivalent at the beginning of a word. It is generally stated that /h/ had a tendency to be lost in neo- and Achaemenid Elamite.⁴⁹ Taking into consideration only the evidence of the month-name spellings, it seems that the sign a in an initial position was not suitable to express foreign words beginning in vowel.
- Ca-a is not /Cā/ but /Cai/ or /Cay/. On a strictly Elamite ground, a (conventional) phonemic transcription for *Sākurriš* might be /saikrizi/.⁵⁰
- Since the reading ké has been rejected from the Elamite syllabary by Steve,⁵¹ it should be better to transcribe /bagiy(a)tiš/ instead of *Bakeyatiš*, in agreement also with the Old Persian spelling.
- The spelling na-iš points to /naš/, being “broken-vowel” writing, while nu-ya(-iš) to /ni(š)/. On the one hand, Kent’s Old Persian transcription *Adukanaiša-*, based on Elamite “broken-vowel” writing na-iš,⁵² is probably groundless. On the Elamite hand, I prefer /h)adukniš/, since for the group /kn/ the sign CVC is the most attested and there are no CV-VC forms pointing to the presence of a vowel.

However, if we think of the different spellings as in a consonantic script with *mater lectionis* (such as ya for /i/ or a for the diphthong /ai/, the latter perhaps as in Akkadian a-a for /aya/), otherwise inaccurate in noting vowel quality (both CVC and Ca signs), nearly all the spellings would be equivalent. Moreover, it should be noted that the signs most persevering in noting vowel quality are those having inherent *i* or *u* (Ci and Cu) like in Old Persian.⁵³

⁴⁹ Reiner 1969: 72, § 3.1.2; Khačikjan 1998: 7, § 2.3.1. Also Grillett-Susini 1987: 10.

⁵⁰ Notice also the following, less systematic, correspondences at the beginning of a word: a-a = /aya-/; a-aC₁-C₁V(C) = /awa-/ (as in the spelling a-āš-šā-rki(m) for the Elamite month-name *Manšarki*, probably pronounced as /a)wašarki/); VC₁-C₂V- = Old Persian /C₁C₂V-/ (prothetic vowel, see Paper 1955: 13).

⁵¹ Steve 1992: 58, no. 85.

⁵² Kent 1953: 167b.

⁵³ See the remarks on Old Persian script in D’Erme 1983.

Scribe's Perseverance

At last, no correlation can be deduced from Hallock's categories that, though being a modern classification, keep apart formal documents (category T, 'Letters') and documents related to high-rank officials (category H, 'Receipts by Officials'). Even if only in these categories the name of the scribe is written (followed by the forms *talliš* and *tallišta* of the verb *talli-*, '(he) wrote (the tablet)'), they do not appear different from others, as one could have supposed them to be.⁵⁴

It is often said that the scribes operating in the Persepolis administration were Elamite, probably from Susa, in connection with a long scribal tradition whose last extant documents are the neo-Elamite administrative tablets found on the Acropolis.⁵⁵ How many scribes were working in Persepolis or elsewhere? Were they all Elamite in origin? Were not Persians trained as scribes? After 25 centuries we still have some chances to know them, even by name.

In fact 42 scribes left their own proper name as a signature on the tablets. While G.G. Cameron took it for granted, at least for some of them, that being Elamite the scribes, their names would be Elamite as well,⁵⁶ M. Mayrhofer assigned an Old Persian etymology to the most of them. According to M. Mayrhofer only 10% (out of 1892 names) of the anthroponyms attested in the tablets is Elamite.⁵⁷ Nearly the same ratio turns out from the anthroponyms of the 42 known scribes: 12% Elamite and 76% Persian; the remainder is uncertain. However, it could be possible that some Elamites adopted Iranian names,⁵⁸ so the onomastics does not help us so much: one can continue to think that scribes were all Elamites. Surely some scribes did not feel obliged to change name.

	anthroponym	linguistic origin*	no.	occurrences tablets
1	an-su-uk-ka ₄	Old Persian	3	PF 1790, 1795, 656
2	at-te-ba-du-iš	?	2	PT 31, 31a
3	ba-ka ₄ -ba-ad-da	Old Persian	2	PT 58, 68
4	ba-ka ₄ -du-iš-da	Old Persian	1	PF 268
5	ba-ka ₄ -ke-ya	Old Persian	1	PF 1805
6	ba-ka ₄ -pi-ik-na	Old Persian	3	PF 667, 1798, 1802
7	ba-ku-uk-ba-ma	Old Persian	1	PF 247

Continues on next page

⁵⁴ Notice also that Elamite month-names are not attested in tablets classified as category T, while only 2 occurrences (versus 32 of Old Persian month-names) are known from tablets of category H.

⁵⁵ Perrot 1981: 79-80; Potts 1999: 320; Cameron 1948: 21-22.

⁵⁶ Cameron 1948: 84, 'Hi-pír-uk-ka₄'.

⁵⁷ Mayrhofer 1973: 310. Zadok 1984: 4: 'The majority of the names in the Persepolis documents is non-Elamite'. Compare Benveniste 1966: 75-99, 'Onomastique perse dans les tablettes élamites', especially p. 97: 'Au total, peuvent être tenus pour certains ou probables, au moins pour possibles, plus de 400 noms que nous restituons comme iraniens, sur un ensemble d'environ 1500 noms propres recueillis dans les tablettes élamites des Fortifications. La portion non-iranienne, surtout élamite et babylonienne, de cette onomastique devra être à son tour analysée et recensée avant qu'on puisse en tirer des inductions sur la répartition des langues et des populations dans la région de Persépolis au V^e siècle'.

⁵⁸ Changing name is a well-known practice in Elam since Ur III and Old Babylonian times (Zadok 1984: 4). On ethnic inference from onomastics, see Rossi 1981: 164-169. See, for instance, the case of Karabba in Giovino 2000-2001: 67 and footnote 49 (see also Mayrhofer 1973: 177, § 8.761, and Hinz & Koch 1987: 437, 'hh.qa-ra-ab-ab').

8	ba-nu-ka ₄	Old Persian	1	PF 674
9	ba-sa-a-za	Old Persian (?)	1	PF 658
10	da-a-hi-uk-ka ₄	Old Persian	1	PF 1809
11	da-ad-da	Old Persian	1	PT 12
12	da-ad-da-man-ya	Old Persian ⁵⁹	2	PT 6, 7, 8
13	hi-in-tam-uk-ka ₄	Old Persian (?)	28	PT 1, 3, 3a, 9 PF 672, 673, 675, 676, 677, 678, 1182, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 2069
14	hi-iš-be-iš	Elamite	1	PF 665
15	hi-iš-[x]-ma-na	–	1	PF 1831
16	hi-te-ha-pi	Elamite	1	PF 1803
17	in-da-pi-za	Elamite (?) ⁶⁰	2	PT 28, 29
18	ir-te-na	Old Persian	1	PF 668
19	ir-zap-par-ra	Median (?)	1	PF 280
20	ka ₄ -ma	Old Persian	1	PT 14
21	ka ₄ -me-iz-za	Old Persian	3	PF 661, 1788, 1789
22	kam-pi-ya	Old Persian	1	PF 659
23	kar-ki-iš	Old Persian	5	PT 22 PF 654, 690, 1792, 1793
24	ki-iz-zi-pu-par-ra	Iranian (?)	1	PF 317
25	kur-du-mi-iš	–	4	PF 614, 670, 671, 1810
26	mar-ri-ya-kar-šá	Old Persian	1	PF 662
27	mi-iš-šá-...]	Old Persian	1	PT 12a
28	mu-iš-ka ₄	Old Persian	2	PT 13 PF 1794
29	pi-ši-ya	Old Persian	1	PF 660
30	pu-uk-te-iz-za	Old Persian	2	PF 666, 1853
31	šá-ak-šá-ba-nu-iš	Old Persian	6	PF 657, 1791, 1796, 1797, 2025, 2067
32	šá-man-da	Old Persian	6	PF 669, 689, 1799, 1800, 1801, 1804
33	šá-ti-du-du	Elamite	1	PF 1811
34	šu-te-iz-za	Old Persian	1	PF 1830
35	tak-ma-zí-ya	Old Persian	3	PF 1806, 1807, 1810
36	te-tuk-ka ₄	Old Persian	1	PT 27
37	ú-ni-ni	Elamite	1	PT 21
38	ú-ra-te-en-da	Old Persian (?)	4	PT 15, 16, 18, 19
39	uk-pu-un-da	Old Persian	1	PF 655
40	ú-ma-ya	Old Persian	2	PF 664, 2068
41	za(?) -kam-uk-ka ₄	Old Persian	1	PF 254
42	zí-nu-ya-pír	Elamite	1	PF 1808
33 anthroponyms = 76.2 % (including 5 dubious)		Old Persian, Median, Iranian	90	
6 anthroponyms = 11.9 % (including 1 dubious)		Elamite	7	

Table 2. Anthroponyms of scribes in the Persepolis tablets.

* According to Hinz & Koch 1987, except where differently stated.

⁵⁹ On the correspondence man = Old Persian v-h-(y), see Mayrhofer 1973: 108-109, ‘6.2. <man> = /vah/, /va(h)i/ ?’.⁶⁰ Iranian in Gershevitch 1969a: 191, ‘Indapiza’.

17 scribes out of 42 are attested as authors of more than one tablet.⁶¹ In the tablets written by 7 of these 17 scribes, for a total number of 70 tablets, the same month-name occurs in different tablets. In only 3 cases the spelling is unpersevering. Moreover, even if we had not had the scribes' proper names, on the 107 tablets (belonging especially to Hallock's category V, 'Journal') where the same month-name is attested more than once, only 8 times it is written with different spellings: in 3 instances a final sign iš is added; in 2 instances a final ya is replaced by iš; in 4 instances there is one variant against two or more occurrences of the same spelling. Evidently, the scribes did not want or feel free to vary the spelling of a month-name in the same text, save in the rarest cases that we can consider exceptional.

Waiting for new data or, better, for the digitalization of already known data, the only certainty is that the different spellings of Old Persian month-names are due to different scribes or, better, each scribe had a preferred spelling, a personal standard, with which he complied, more or less consciously. The creativity is not exercised from time to time, but once and forever, perhaps when he was required for the first time to write an Old Persian month-name. This could happen because the scribes were not taught at school how to write Old Persian month-names: being recent loan-words, they were not fixed by a long scribal tradition and nobody imposed a standard, save perhaps the use of Old Persian month-names as a whole.

Logographic versus Phonetic Writings

Spelling variability is a constant feature of the Persepolis tablets: for instance, 20 are the different attested spellings of the ordinal morpheme *-ummemana*; the entries of toponyms such as Matezziš and Persepolis in Hallock's 'Glossary' or Vallat's *Répertoire géographique* are similarly rich in attested spellings.⁶² Instead, in a slightly older Elamite administrative corpus such as the tablets from the Acropolis of Susa,⁶³ spelling variability is nearly absent: for example, in the 23 anthroponyms attested more than once, none has variable spelling. This inconsistency between Persepolis and Susa could be explained by the quantitative disproportion between the two corpora (more than 2200 published tablets versus 299) and consequently by the smaller number of scribes at work in Susan administration.

A further scrap of evidence could be gained from logograms. The number of logograms attested in Achaemenid Elamite is higher than that known from the preceding stages of Elamite script,⁶⁴ even if the whole number of signs in the syllabary is lower than that attested in the neo-Elamite period.⁶⁵ Out of 84 logograms attested in Achaemenid Elamite, one third (precisely 29) was not attested before.⁶⁶ On the other hand, logograms largely known in the neo-Elamite period disappeared almost completely from the Achaemenid documents: for example, staying within the limits of the date formulae, the logograms for

⁶¹ Assuming that possible cases of homonymy are not statistically significant.

⁶² Hallock 1969: 728, 'Matezziš'; Vallat 1993: 178-179, 'Matezziš'.

⁶³ Published in Scheil 1907.

⁶⁴ Steve 1992: 10-12; Vallat 1996: 386-387.

⁶⁵ See Steve 1992: 11, fig. 1.

⁶⁶ Count based on the list of logograms in Steve 1992: 36-39 (dubious occurrences excluded).

Babylonian month-names, the logogram KAM marking ordinal numbers and the logogram UD ‘day’. The presence of a higher number of logograms, especially pointing to real objects, could be perhaps only a consequence of the hugeness of Achaemenid administrative corpora, although this is not enough to state that phonetic writings were preferred to logographic ones.

Logographic writings, being conventional, must have been learned at school, while the variability in phonetic writings points to a lack of systematic encoding. My feeling is that the learning course of the scribes in Persepolis was brief and hasty, perhaps in concomitance with a compelling need of new scribes working in a fast-expanding administration.

The present contribution is a synthesis of a still unpublished extensive research on the spellings of month-names in the Persepolis tablets. I would like to thank Grazia Giovino and Adriano V. Rossi (‘L’Orientale’ University, Naples) who, at different stages, read this study improving it with their suggestions.

APPENDIX A: SPELLINGS ENDING IN A (C)VŠ SIGN

In Hallock’s transcription, 11 Old Persian month-names out of 12 end in š, the only exception being *Turmar*. However, even *Turmar*, which is the only month-name written without a final (C)Vš sign in Bisotun too, has a lot of spellings ending in a (C)Vš sign, while every other Old Persian month-name has several spellings ending in other signs.

order	Old Persian month-name	DB/AE		Persepolis tablets		
		occurrences	%	occurrences	%	ranking†
1	<i>Hadukannaš</i>	1	100.0	112	68.7	1st-2nd
2	<i>Turmar</i>	0	0.0	75	46.3	1st
3	<i>Sākurrižiš</i>	1	100.0	131	93.6	1st-9th
4	<i>Karmabataš</i>	3	100.0	107	95.5	1st-3rd
5	<i>Turnabaziš</i>	–	–	121	96.8	1st-4th
6	<i>Karbašiyaš</i>	–	–	89	70.1	1st
7	<i>Bakeyatiš</i>	1	100.0	112	86.8	1st-2nd
8	<i>Markašanaš</i>	1	100.0	84	68.3	1st
9	<i>Hašiyatiš</i>	2	100.0	115	83.3	1st-2nd
10	<i>Hanamakaš</i>	4	100.0	120	81.1	1st-2nd
11	<i>Samiyamaš</i>	–	–	101	79.5	1st-3rd
12	<i>Miyakannaš</i>	3	100.0	137	66.8	1st-2nd

Table 3. Number of occurrences of Old Persian month-names ending in a (C)Vš sign.

† Ranking of spellings ending in a (C)Vš sign within the most attested spellings.

In the Persepolis tablets, the spelling of a month-name ends with a (C)Vš sign in 78.1% of the occurrences. The lowest percentage (46.3%) belongs to *Turmar*: according to Hallock, this is because ‘the form *Turmar*, identical in pattern with the native Elamite month name

Lankel (a variant of *Lankelli*⁶⁷) and similar to *Zikli* and *Šermi*, was readily accommodated'.⁶⁸ I think that it was the final *r* of the Old Persian stem to make the difference in Elamite⁶⁹: save just for *Turmar*, a (C)Vš sign appears nearly always⁷⁰ as an alternative to vowel-ending spellings.

Hadukannaš is the only month-name having *š* as ending of the Old Persian stem, but its percentage of spellings ending with a (C)Vš sign in Elamite is lower than the average; then *Markašanaš* and *Miyakannaš* follow: these three month-names share several occurrences having *n*-signs in final position.

month-name	áš	iš	kaš	maš	ráš	taš	ši	zí	za	ya	an	kán	na	nu	ir	ur	mar	ra	ak	ka	ma	da	ti
<i>Hadukannaš</i>		112								30			16	5									
<i>Turmar</i>		4			71										64	1	3	19					
<i>Sākurriš</i>		131						1	8														
<i>Karmabataš</i>						107																5	
<i>Turnabaziš</i>		120	1 !				1	3															
<i>Karbašiyaš</i>	1	88					7			30	1 !												
<i>Bakeyatiš</i>	1	111						1															16
<i>Markašanaš</i>	2	82											39										
<i>Hašiyatiš</i>		113				2		4		6	1 !												12
<i>Hanamakaš</i>		4	116															1 !	27				
<i>Samiyamaš</i>	1	7		56		38				2											15	7	1
<i>Miyakannaš</i>	4	133										1 !	67										

Table 4. Number of occurrences of Old Persian month-names arranged according to the final sign.

It is commonly assumed that in Elamite the *š* ending denotes words of Iranian origin.⁷¹ However, it suffices to skim through a list of Elamite kings to recognize that this ending was largely known in Elamite since a long time,⁷² especially in onomastics.⁷³ Maybe a *š*

⁶⁷ *la-an-ké-ul*: attested 2 times out of 24 occurrences, plus 2 occurrences as *la-ké-ul*.

⁶⁸ Hallock 1969: 10.

⁶⁹ Perhaps *r* was considered as an Elamite ending, corresponding in fact to the delocutive suffix, even if months are inanimate (though often deified).

⁷⁰ Moreover, the four exception (*-an* in *Karbašiyaš* and *Hašiyatiš* on the same tablet PF 1050, *-ak* in *Hanamakaš*, *-kán* in *Miyakannaš*) could be regarded as errors on other grounds.

⁷¹ Hallock 1969: 9-10, 'The Loan Words from Old Persian': 'There seems to be only one possible source of this *-š*: it came into Elamite from O[ld] P[ersian] along with the loan words which in O[ld] P[ersian] had *-š* as a case ending. The Elamites [i.e. the scribes working for the royal court and the state administration] then attached the *-š* analogically to other O[ld] P[ersian] loan words. This procedure offered a certain advantage. It would be difficult to accommodate, one by one, numerous words of disturbingly non-Elamite configuration. It would not be so difficult to accommodate a large group, constituting a sort of class, marked by a common ending. The month names borrowed from O[ld] P[ersian] exemplify the Elamite use of the final *š*. In O[ld] P[ersian] most of these did not have final *š* in the nominative, nor in the genitive, which might be more to the point. In Elamite all appear both with and without final *š*' (p. 10). Khačikjan 1998: 12, 'e) *-(a)š*': 'This suffix, especially widespread in A[chaemenid] E[lamite], was part of vocabulary connected with agriculture and of O[ld] P[ersian] loan-words'. Compare Cameron 1948: 44: 'Several of the Elamite forms bear a final *š* which does not always belong to the Old Persian word and which must in those cases considered an Elamitic termination commonly found in borrowed words'.

⁷² Moreover *š* as a case ending in Old Persian is not so much attested, while *s* is replaced by unwritten *h* (Kent 1953: 41b, § 119).

⁷³ Zadok 1983: 111-112, citing (footnote 498 on p. 111) Reiner 1969: 76, § 4.1.

ending was used to naturalize foreign words, perhaps in order to avoid a final vowel or to point out that the otherwise final vowel was to be read.⁷⁴

APPENDIX B: SPELLING HARMONIZATION?

Looking at Hallock's transcriptions, straight correspondences can be noticed in the final parts of *Hadukannaš* and *Miyakannaš*, *Bakeyatiš* and *Hašiyatiš*, and, to a lesser extent, *Sakurriziš* and *Turnabaziš*.

The pairs where both names are known also from the Bisotun inscription show only a vague assonance in their Old Persian spellings. The Old Persian declined forms a-du-u-k-[n-i]-š-h-y and vi-i-y-kh-n-h-y are very different: the latter having a velar voiceless fricative instead of the homorganic stop, while *š* is part of the stem of the first; b-a-g-y-a-d-i-š and a-ç-i-y-a-di-i-y-h-y are rather different in their Old Persian declined form and so in the last vowel of the Old Persian stem, though having the same dental stop⁷⁵; in the latter pair, Elamite *z* represents an Old Persian *c* (θ-a-i-g-r-c-i-š) in *Sākurrižiš* and probably a *j* in *Turnabaziš*, the common Old Persian reconstruction being **Dṛnabāji*-.⁷⁶

Looking at the Elamite spellings of these month-names, two rather different situations were found. Regarding the last two pairs, not only the most attested spellings, but also the minor variants (though very few for the latter pair, the common part being too short) can be compared, as can be seen from the spelling flow charts (figs. 7, 9, 3 and 5); in particular, for *Hašiyatiš* and *Bakeyatiš* there is a comparable development also in the few aberrant spellings in *-hazi* and *-hatiš*. At a first glance to the spelling flow charts, the same situation seems to be true also for *Hadukannaš* and *Miyakannaš*, save for the absence of *ya* in the latter; instead, comparing the occurrences of corresponding syllabic sequences, noteworthy differences come out: *nu* is attested very few times in *Miyakannaš*, while it is nearly equally attested as *na* (and always followed by *ya*) in *Hadukannaš*; moreover, as last sign, *na* is four times more attested in *Miyakannaš* than in *Hadukannaš*.

Notwithstanding, in order to ascertain whether scribes consciously standardize the assonant final parts of Old Persian month-names in Elamite, I checked the tablets where both month-names of each above-mentioned pairs appear. The final *-kannaš* is written in the same way in 13 cases (including the Bisotun inscription) versus 20; the final *-yatiš* in 26 occurrences versus 6 (including significantly the Bisotun inscription); the final *-ziš* in 27 occurrences versus 4. So it seems that the majority of scribes did not regard *Hadukannaš* and *Miyakannaš* as similar, perhaps being aware of their different Old Persian stem. Therefore I think that this difference has to be reflected in their standard Elamite transcription.

⁷⁴ See, for instance, Paper 1955: 11-12, 'Written final vowels'.

⁷⁵ Notice also Poebel 1938a: 141: 'The variants ^dba-gi-ia-ti-ia-iš, ^dqa-ir-ba-ši-ia-iš, etc., may indicate a long (contracted) vowel in the last syllable of the Old Persian names; but more probably they are the genitive forms belonging to the nominatives ^dba-gi-ia-ti-iš, etc.'.

⁷⁶ Schmitt 1996 and 2003: 47-49 (§ 3.11) with further references.

ABBREVIATIONS

- DB/AE: Elamite text of Darius' Bisotun inscription published in Grillot-Susini & al. 1993.
 DB/OP: Old Persian text of Darius' Bisotun inscription published in Schmitt 1991.
 CAD: *The Assyrian Dictionary of the Oriental Institute of the University of Chicago*, Chicago.
 Fort.: Tablets from the Persepolis fortification wall, partially renumbered as PF (correspondences in Hallock 1969: 12) and almost entirely renumbered as PF-NN (correspondences in Hinz & Koch 1987: 1370-1392).
 OED: *Oxford English Dictionary*, 2nd edition on CD-ROM (version 1.13), Oxford, 1994.
 PF: 2087 tablets from the Persepolis fortification wall published in Hallock 1969.
 PFa: 33 tablets from the Persepolis fortification wall published in Hallock 1978.
 PF-NN: Unpublished tablets from the Persepolis fortification wall transliterated by Hallock (see Hallock 1978: 109) and circulating as photocopies among scholars.
 PT: Tablets from the Persepolis "treasury" published in Cameron 1948.

REFERENCES

- AMIET, Pierre (1966) *Elam*, Auvers-sur-Oise.
 BASELLO, Gian Pietro (2002) 'Babylonia and Elam: the Evidence of the Calendars', in Antonio C.D. PANAINO & Giovanni PETTINATO, *Ideologies as Intercultural Phenomena. Proceedings of the Third Annual Symposium of the Assyrian and Babylonian Intellectual Heritage Project held in Chicago, USA, October 27-31, 2000* (Melammu Symposia, 3), pp. 13-36, Milano.
 BENVENISTE, Émile (1954) 'Éléments perses en araméen d'Égypte', *Journal Asiatique*, 242/3-4, pp. 297-310, Paris.
 BENVENISTE, Émile (1966) *Titres et noms propres en iranien ancien*, Paris.
 BLOIS, DE, François (1992) Review of Hinz & Koch 1987, *Bibliotheca Orientalis*, 49/1-2, columns 195-197, Leiden.
 BLOIS, DE, François (2006) 'Lunisolar Calendars of Ancient Iran', in Antonio PANAINO & Andrea PIRAS, eds., *Proceedings of the 5th Conference of the Societas Iranologica Europæa held in Ravenna, 6-11 October 2003*, 1, pp. 39-52, Milano (in this same volume).
 BRANDENSTEIN, Wilhelm & Manfred MAYRHOFFER (1964) *Handbuch des Altpersischen*, Wiesbaden.
 CAMERON, George G. (1948) *Persepolis Treasury Tablets* (Oriental Institute Publications, 65), Chicago.
 CAMERON, George G. (1958) 'Persepolis Treasury Tablets Old and New', *Journal of Near Eastern Studies*, 17, pp. 161-176, Chicago.
 CAMERON, George G. (1960) 'The Elamite Version of the Bisitun Inscriptions', *Journal of Cuneiform Studies*, 14, pp. 59-68, New Haven.
 CAMERON, George G. (1965) 'New Tablets from the Persepolis Treasury' (with contributions by Ilya GERSHEVITCH), *Journal of Near Eastern Studies*, 24, pp. 167-192, Chicago.
 D'ERME, Giovanni (1983) 'Aspetti grafici e fonetici della scrittura antico-persiana', *Annali dell'Istituto Universitario Orientale*, 43, pp. 429-477, Napoli.

- GARRISON, Mark B. & Margaret Cool ROOT (2001) *Seals on the Persepolis Fortification Tablets*, 1: *Images of Heroic Encounter* (Oriental Institute Publications, 117), seal inscription readings by Charles E. JONES, Chicago.
- GAUTIER, Joseph-Étienne (1909) 'Le «sit šamši» de Šilhak In Šušinak', *Recueil des travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes*, 31, pp. 41-49, Paris.
- GAUTIER, Joseph-Étienne (1911) 'Le «Sit Šamši» de Šilhak in Šušinak', in M.-C. SOUTZO, G. PÉZARD, G. BONDOUX, Roland de MECQUENEM, Maurice PÉZARD, Joseph-Étienne GAUTIER & Paul TOSCANNE, *Recherches archéologiques* (Mémoires de la Délégation en Perse, 12), pp. 143-151, Paris.
- GELB, Ignace Jay (1970) 'Comments on the Akkadian Syllabary', *Orientalia*, nova series 39, pp. 516-546, Rome.
- GERSHEVITCH, Ilya (1969a) 'Amber at Persepolis', in *Studia Classica et Orientalia Antonino Pagliaro Oblata*, 2, pp. 167-251, Roma.
- GERSHEVITCH, Ilya (1969b) 'Iranian Nouns and Names in Elamite Garb', *Transactions of the Philological Society*, pp. 165-200, Oxford.
- GERSHEVITCH, Ilya (1979) 'The Alloglottography of Old Persian', *Transactions of the Philological Society*, pp. 114-190, Oxford.
- GIOVINAZZO, Grazia (2000-2001) 'Les Indiens à Suse', *Annali dell'Istituto Universitario Orientale*, 60-61, pp. 59-76, Napoli.
- GRILLOT-SUSINI, Françoise (1987) *Éléments de grammaire élamite*, with the collaboration of Claude ROCHE, Paris.
- GRILLOT-SUSINI, Françoise (1994) 'Une nouvelle approche de la morphologie élamite: racines, bases et familles de mots', *Journal Asiatique*, 282/1, pp. 1-17, Paris.
- GRILLOT-SUSINI, Françoise, Clarisse HERRENSCHMIDT & Florence MALBRAN-LABAT (1993) 'La version élamite de la trilingue de Behistun: une nouvelle lecture', *Journal Asiatique*, 281, pp. 19-59, Paris.
- HALLOCK, Richard T. (1960) 'The "One Year" of Darius I', *Journal of Near Eastern Studies*, 19, pp. 36-39, Chicago.
- HALLOCK, Richard T. (1969) *Persepolis Fortification Tablets* (Oriental Institute Publications, 92), Chicago.
- HALLOCK, Richard T. (1973) 'The Persepolis Fortification Archive', in G. BUCCELLATI, ed., *Approaches to the Study of the Ancient Near East. A Volume of Studies Offered to Ignace Jay Gelb* (= *Orientalia*, 42), pp. 320-323, Rome.
- HALLOCK, Richard T. (1978) 'Selected Fortification Texts', *Cahiers de la Délégation Archéologique Française en Iran*, 8, pp. 109-136, Paris.
- HALLOCK, Richard T. (1985) 'The Evidence of the Persepolis Tablets', in Ilya GERSHEVITCH, ed., *The Cambridge History of Iran, 2: The Median and Achaemenian Periods*, pp. 588-609, Cambridge.
- HAMP, Eric P. (1957) 'Elamite Phonology and Morphology', *Word. Journal of the Linguistic Circle of New York*, 13, pp. 499-513, New York.
- HAUGEN, Einar (1950) 'The Analysis of Linguistic Borrowings', *Language*, 26, pp. 210-231, Baltimore.
- HENNING, Walter B. (1944) 'The Murder of the Magi', *Journal of the Royal Asiatic Society of Great Britain and Ireland*, pp. 133-144, London.
- HINZ, Walther (1973) *Neue Wege im Altpersischen* (Göttinger Orientforschungen, 3/1), Wiesbaden.
- HINZ, Walther (1975) *Altiranisches Sprachgut der Nebenüberlieferungen* (Göttinger Orientforschungen, III. Reihe: Iranica, 3), Wiesbaden.

- HINZ, Walther (1987) 'Elams Übergang ins Perserreich', in *Transition Periods in Iranian History. Actes du symposium de Fribourg-en-Brisgau (22-24 mai 1985)*, pp. 125-134, Leuven.
- HINZ, Walther & Heidemarie KOCH (1987) *Elamisches Wörterbuch (in 2 Teilen)* (Archäologische Mitteilungen aus Iran, Ergänzungsband 17), Berlin.
- JUSIFOV, Ju.B. (1963) 'Ėlamskie chozjajstvennye dokumenty iz Suz' (i.e. 'Elamite economic documents from Susa'), *Vestnik Drevnej Istorii*, 84/2, pp. 189-222, and 85/3, pp. 199-261, Moskva (in Russian).
- JUSTI, Ferdinand (1897) 'Die altpersischen Monate', *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, 51, Wiesbaden.
- KENT, Roland G. (1953) *Old Persian. Grammar Texts Lexicon*, 2nd edition, New Haven, Connecticut.
- KHAČIKJAN, Margaret L. (1998) *The Elamite Language* (Documenta Asiana, 4), Roma.
- KÖNIG, Friedrich Wilhelm (1925) *Corpus Inscriptionum Elamitarum*, 1: *Die altelamischen Texte. Tafeln*, Hannover (reprint Osnabrück 1975).
- KÖNIG, Friedrich Wilhelm (1965) *Die elamischen Königsinschriften* (Archiv für Orientforschung, Beiheft 16), Berlin / Graz (reprint Osnabrück 1977).
- LACKENBACHER, Sylvie (1998) 'Elam, vii. Non-Elamite Texts in Elam', in Ehsan YARSHATER, ed., *Encyclopædia Iranica*, 8, pp. 342-344, Costa Mesa, California.
- LECOQ, Pierre (1974) 'La langue des inscriptions achéménides', in *Hommage universel*, 2 (Acta Iranica, 2 = Première série, Commémoration Cyrus), pp. 55-62, Téhéran / Liège.
- MALBRAN-LABAT, Florence (1995) *Les inscriptions royales de Suse. Briques de l'époque paléo-élamite à l'Empire néo-élamite*, Paris.
- MALBRAN-LABAT, Florence (1996) 'Akkadien, bilingues et bilinguisme en Élam et à Ougarit', in Françoise BRIQUEL-CHATONNET, ed., *Mosaïque de langues, mosaïque culturelle. Le bilinguisme dans le proche-Orient ancien. Actes de la Table-Ronde du 18 novembre 1995 organisée par l'URA 1062 «Etudes Sémitiques»*, pp. 33-61, Paris.
- MAYRHOFER, Manfred (1973) *Onomastica Persepolitana. Das altiranische Namengut der Persepolis-Täfelchen*, with the collaboration of J. HARMATTA, Walther HINZ, Rüdiger SCHMITT & Jutta SEIFERT, Wien.
- MAYRHOFER, Manfred (1979) *Iranisches Personennamenbuch*, 1: *Die altiranischen Namen*, Wien.
- MIROSCHEJ, Pierre de (1982) 'Notes sur la glyptique de la fin de l'Élam', *Revue d'Assyriologie et d'Archéologie Orientale*, 76, pp. 51-63, Paris.
- OPPERT, Julius [= Jules] (1898) 'Der Kalender der alten Perser', *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, pp. 259-270, Wiesbaden.
- OPPERT, Jules (1899) 'Le calendrier perse', in *Actes du onzième Congrès International des Orientalistes. Paris-1897*, 1, pp. 327-348, Paris.
- PANAINO, Antonio C.D. (1990) 'Calendars, i. Pre-Islamic Calendars', in Ehsan YARSHATER, ed., *Encyclopædia Iranica*, 4, pp. 658-668, London / New York.
- PAPER, Herbert H. (1955) *The Phonology and Morphology of Royal Achaemenid Elamite*, Ann Arbor.
- PERROT, Jean (1981) 'L'Architecture Militaire et Palatiale des Achéménide à Suse', in *150 Jahre Deutsches Archäologisches Institut 1829-1979. Festveranstaltungen und internationales Kolloquium 17.-21. April 1979 in Berlin*, pp. 79-94, Mainz.
- POEBEL, Arno (1938a) 'The Names and the Order of the Old Persian and Elamite Months during the Achaemenid Period', *American Journal of Semitic Languages and Literatures*, 55, pp. 130-141, Chicago.
- POEBEL, Arno (1938b) 'Chronology of Darius' First Year of Reign', *American Journal of Semitic Languages and Literatures*, 55, pp. 142-165 and 285-314, Chicago.

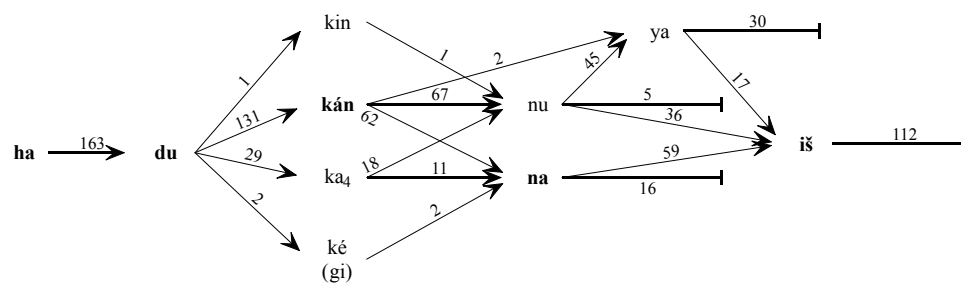
- POTTS, Daniel T. (1999) *The Archaeology of Elam. Formation and Transformation of an Ancient Iranian State* (Cambridge World Archaeology), New York.
- REINER, Erica (1960) 'Calques sur le vieux-perse en élamite', *Bulletin de la Société de Linguistique de Paris*, 55, pp. 222-227, Paris.
- REINER, Erica (1969) 'The Elamite Language', in *Handbuch der Orientalistik*, I. Abt., 2. Band, 1. und 2. Abschnitt, Lieferung 2: *Altkleinasiatische Sprachen*, pp. 54-118, Leiden / Köln.
- ROAF, Michael (1990) *Cultural Atlas of Mesopotamia and the Ancient Near East*, New York.
- ROSSI, Adriano V. (1981) 'La varietà linguistica nell'Iran achemenide', *Annali del Dipartimento di Studi del Mondo Classico e del Mediterraneo Antico dell'Istituto Universitario Orientale. Sezione linguistica*, 3 (Atti del convegno «la varietà linguistica nel mondo antico», Napoli, 2-3 febbraio 1981), pp. 141-196, Napoli.
- RUTTEN, Marguerite (1953) *Les documents épigraphiques de Tchogha Zembil* (Mémoires de la Mission archéologique en Iran, 32), introduction by G. CONTENAU, Paris.
- SCHEIL, Vincent (1905) 'Misc. VI. Ḥatamti', *Orientalistische Literaturzeitung*, 8, columns 250-251, Leipzig.
- SCHEIL, Vincent (1907) *Textes élamites-anzanites, troisième série* (Mémoires de la Délégation en Perse, 9), Paris.
- SCHEIL, Vincent (1911) 'Texte de Šilḥak In Šušinak. Plateau votif de bronze', in *idem*, *Textes élamites-anzanites, quatrième série* (Mémoires de la Délégation en Perse, 11), pp. 58-59 and plate 11, Paris.
- SCHEIL, Vincent (1917) 'Déchiffrement d'un document anzanite relatif aux présages', *Revue d'Assyriologie et d'Archéologie Orientale*, 14, pp. 29-59, Paris.
- SCHMIDT, Erich F. (1957) 'An Elamite Bronze Plaque', with a contribution by George G. CAMERON, in *idem*, *Persepolis II. Contents of the Treasury and other Discoveries*, pp. 64-65 and plates 27-28, Chicago.
- SCHMITT, Rüdiger (1985a) 'Āçiyādiya', in Ehsan YARSHATER, ed., *Encyclopædia Iranica*, 1, p. 430, London / Boston / Henley.
- SCHMITT, Rüdiger (1985b) 'Adukanaiša', in Ehsan YARSHATER, ed., *Encyclopædia Iranica*, 1, p. 471, London / Boston / Henley.
- SCHMITT, Rüdiger (1987) 'Anāmaka', in Ehsan YARSHATER, ed., *Encyclopædia Iranica*, 2, p. 1, London / New York.
- SCHMITT, Rüdiger (1989) 'Bāgayādiš', in Ehsan YARSHATER, ed., *Encyclopædia Iranica*, 3, p. 408, London / New York.
- SCHMITT, Rüdiger (1991) *The Bisitun Inscriptions of Darius the Great. Old Persian Text* (Corpus Inscriptionum Iranicarum, part I, 1, texts I), London.
- SCHMITT, Rüdiger (1996) 'Dṛnabājiš', in Ehsan YARSHATER, ed., *Encyclopædia Iranica*, 7, p. 554, Costa Mesa, California.
- SCHMITT, Rüdiger (2003) *Meno-logium Bagistano-Persepolitanum. Studien zu den altpersischen Monatsnamen und ihren elamischen Wiedergaben* (Veröffentlichungen zur Iranistik, 30 = Österreichische Akademie der Wissenschaften, philosophisch-historische Klasse Sitzungsberichte, 705), Wien.
- SCHMITT, Rüdiger (2006) 'Zu den altpersischen Monatsnamen und ihren elamischen Wiedergaben', in Antonio PANAINO & Andrea PIRAS, eds., *Proceedings of the 5th Conference of the Societas Iranologica Europæa held in Ravenna, 6-11 October 2003*, 1, pp. 201-213, Milano (in this same volume).
- STEVE, Marie-Joseph (1986) 'La fin de l'Élam: à propos d'une empreinte de sceau-cylindre', *Studia Iranica*, 15, pp. 7-21 and plate 1, Paris.
- STEVE, Marie-Joseph (1992) *Syllabaire Elamite. Histoire et Paleographie* (Civilisations du Proche-Orient: Serie II, Philologie, 1), Neuchâtel / Paris.

- STOLPER, Matthew W. (1984) *Texts from Tall-i Malyan I. Elamite Administrative Texts (1972-1974)* (Occasional Publications of the Babylonian Fund, 6), Philadelphia.
- TALLON, Françoise (1992) 'Model, called the *sit-shamshi* (sunrise)', in Prudence O. HARPER, Joan ARUZ & Françoise TALLON, eds., *The Royal City of Susa. Ancient Near Eastern Treasures in the Louvre*, pp. 137-141, New York.
- TALLON, Françoise & Loïc HURTEL (1992) 'Technical Analysis', in Prudence O. HARPER, Joan ARUZ & Françoise TALLON, eds., *The Royal City of Susa. Ancient Near Eastern Treasures in the Louvre*, pp. 140-141, New York.
- THOMASON, Sarah Grey, ed. (2001) *Language Contact*, Washington.
- TUPLIN, Christopher (2005) 'Darius' Accession in (the) Media', in Piotr BIENKOWSKI, Christopher MEE & Elizabeth SLATER, eds., *Writing and Ancient Near Eastern Society. Papers in Honour of Alan R. Millard*, pp. 217-244, New York / London.
- VALLAT, François (1993) *Les noms géographiques des sources suso-élamites* (Répertoire Géographique des Textes Cunéiformes, 11), Wiesbaden.
- VALLAT, François (1996) 'Nouvelle analyse des inscriptions néo-élamites', in Hermann GASCHE & Barthel HROUDA, eds., *Collectanea Orientalia. Histoire, arts de l'espace et industrie de la terre. Études offertes en hommage à Agnès Spycket*, pp. 385-396, Neuchâtel / Paris.
- VAN COETSEM, Frans (1988) *Loan Phonology and the Two Transfer Types in Language Contact*, Dordrecht.
- WEINREICH, Uriel (1953) *Languages in Contact: Findings and Problems* (Publications of the Linguistic Circle of New York, 1), New York.
- WEINREICH, Uriel (1957) 'On the Description of Phonic Interference', *Word. Journal of the Linguistic Circle of New York*, 13, pp. 1-11, New York.
- WINDFUHR, Gernot L. (1988) 'Saith Darius. Dialectic, Numbers, Time and Space at Behistun (DB, Old Persian Version)', in Heleen SANCISI-WEERDENBURG, Amélie KUHRT & Margaret COOL ROOT, eds., *Continuity and Change. Proceedings of the last Achaemenid History Workshop April 6-8, 1990 - Ann Arbor, Michigan*, pp. 257-264, Leiden.
- ZADOK, Ran (1983) 'A Tentative Structural Analysis of Elamite Hypocoristica', *Beiträge zur Namenforschung*, neue Folge 18, pp. 93-120, Heidelberg.
- ZADOK, Ran (1984) *The Elamite Onomasticon* (Supplemento agli Annali dell'Istituto Universitario Orientale, 40), Napoli.

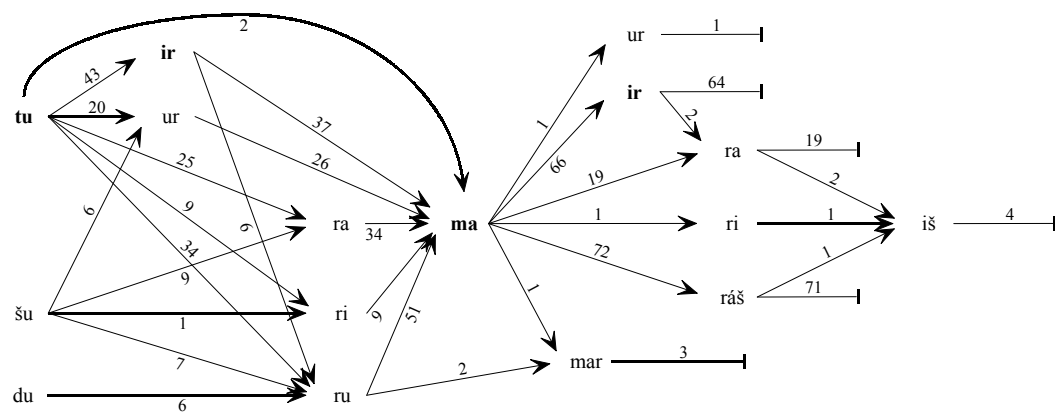
PLATES

Figs. 1-12. Spelling flow charts of the Old Persian month-names in Elamite.

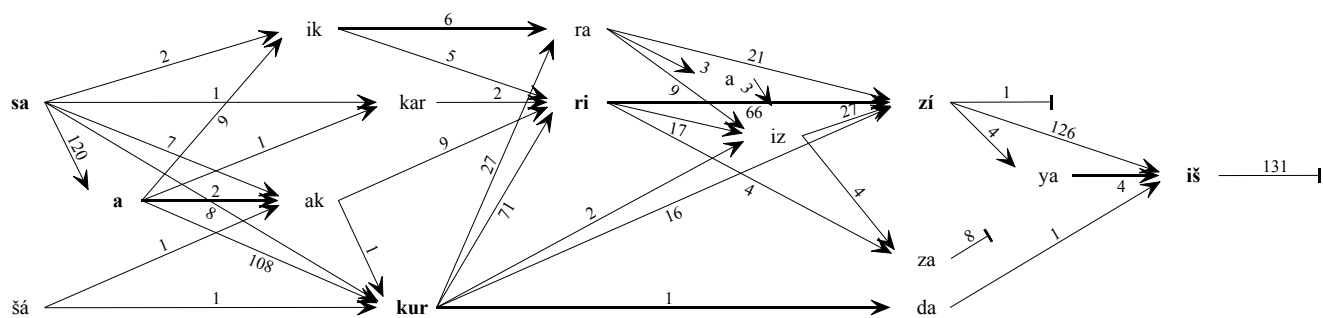
1



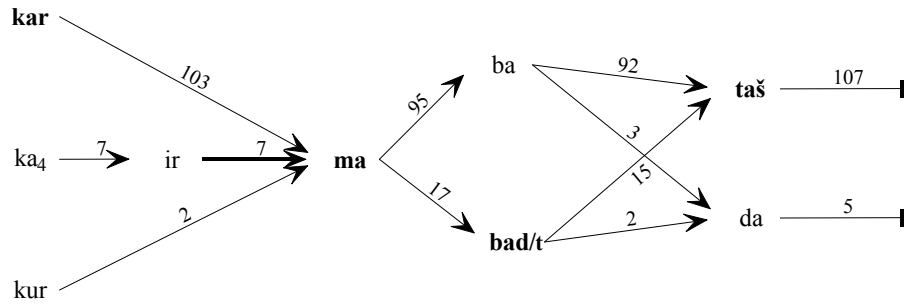
2



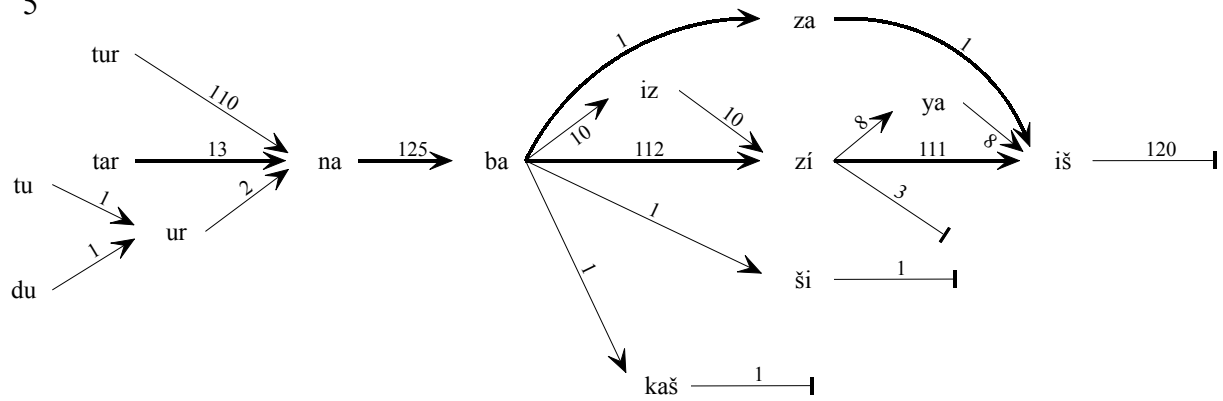
3



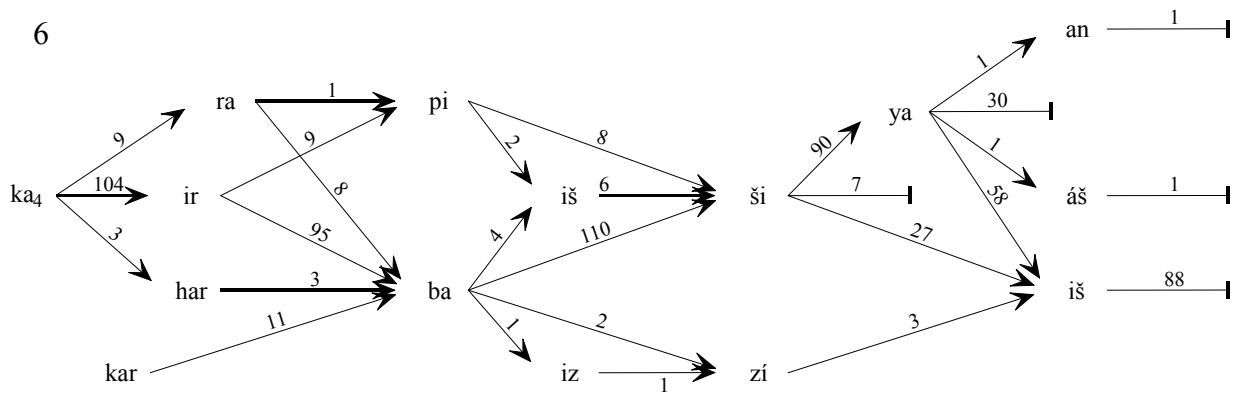
4



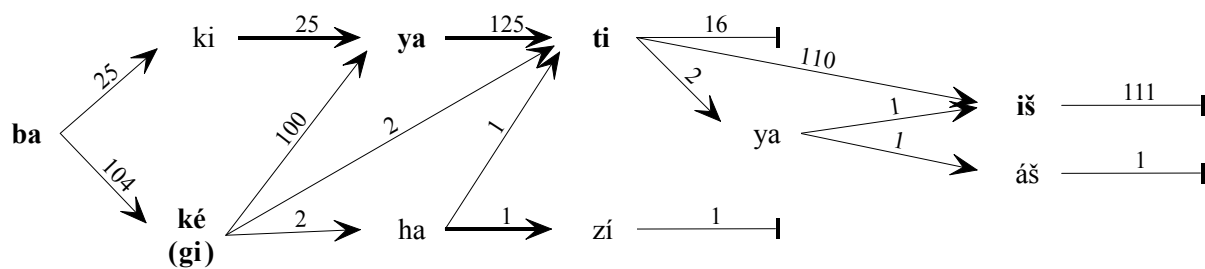
5



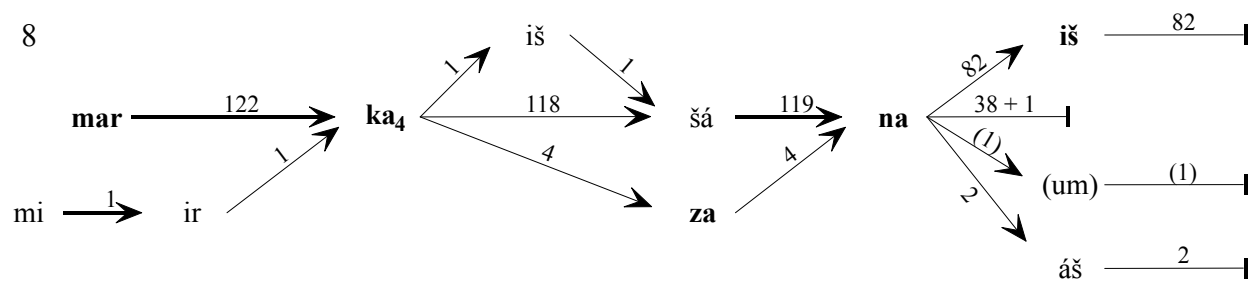
6



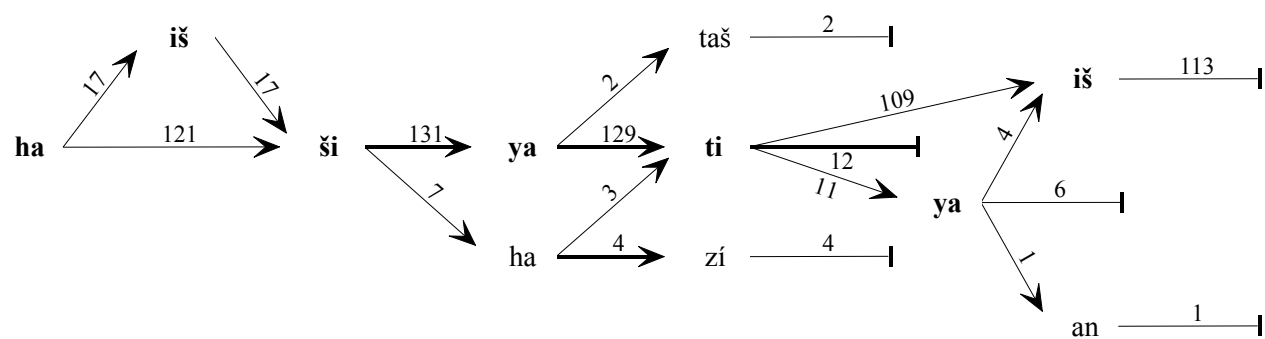
7



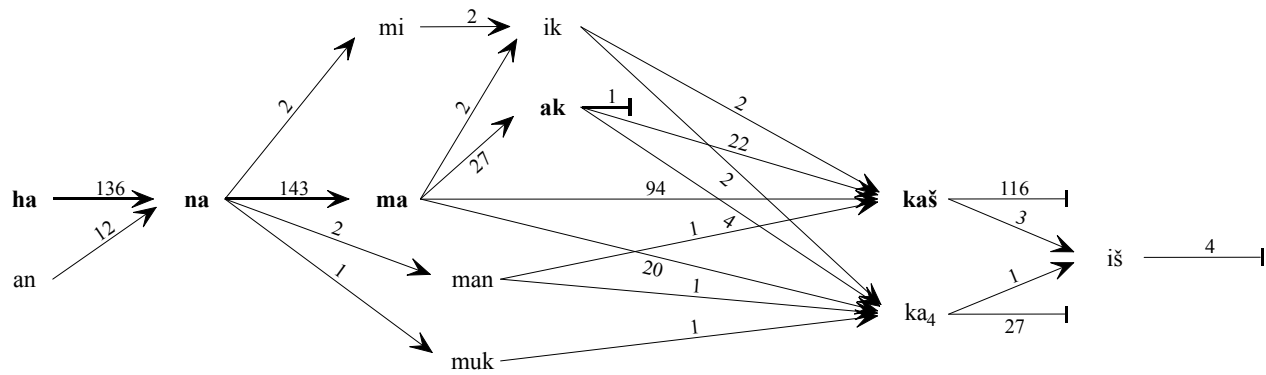
8



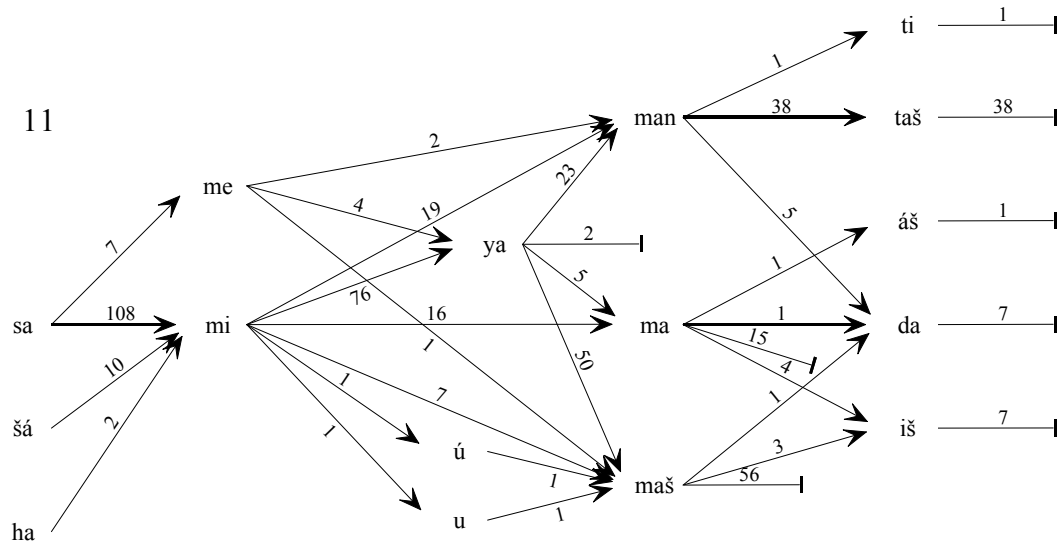
9



10



11



12

